

## **Region 3 GPRA Baseline RCRA Corrective Action Facility**

# **Hercules Research Center**

**500 Hercules Rd.  
Wilmington, DE 19808-1599  
Congressional District 1  
EPA ID #: DED001315647  
Last Updated 6/13/2005**

## **Current Progress at the Site**

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EPA issued a RCRA Corrective Action permit July 2, 1991, and identified 16 Solid Waste Management Units (SWMUs) and four Areas of Concerns (AOCs) at the facility. The SWMUs and AOCs are units that require investigation to determine if corrective measures would be necessary. On December 1, 2004, Delaware Department of Natural Resources and Environmental Control (DNREC) reissued the Corrective Action Permit, and is the lead agency for Corrective Action at this facility.

SWMU 9A is a former drum storage area, presently used for salvaged equipment storage. This regulated unit is located within a larger area, designated as SWMU 15. Sampling showed that the area was impacted by past releases from experimental pesticide formulation in a nearby building. Hercules completed investigations at SWMUs 9A and 15 as part of the Corrective Action permit. Soil sampling results of SWMUs 9A/15 showed soil contamination with pesticides, metals and volatile organic compounds, including chlorobenzene. The groundwater results indicated that soil contaminants have not impacted the groundwater. SWMU 9A was closed under DNREC's Solid and Hazardous Waste Management Branch (SHWMB). The permit was modified to include corrective actions at these two units. Corrective measures included excavation of the contaminated soil "hot spots" and capping the area with a low permeability asphalt cover. In January 1999, DNREC issued the Closure Certification letter for SWMU 9A.

Hercules completed a Corrective Measures Study for SWMU 8 and 9C, a former dump and drum storage area. Polychlorinated biphenyls (PCBs), select pesticides and metals were found in soils and some sediments. Hercules proposed to excavate drainage swale sediments and place an engineered cover system with flood protection, and maintain institutional controls, e.g., deed restriction as the remediation alternative for these SWMUs. EPA approved the proposed remedy, and required additional sediment sampling to evaluate if the Red Clay Creek has been impacted by this SWMU. The plan for additional sediment sampling was approved on September 2000. Sediment sample collection was completed in October 2000. The Red Clay Creek Sediment Sampling Report was submitted to EPA in March 2001. Based on the results presented in the report, DDT and DDD hotspots were detected in the downstream portion of the Red Clay Creek. EPA conducted limited confirmation sampling in these areas in September 2001. Results indicate that contaminants in Red Clay Creek cannot be definitively linked to the Hercules site. EPA and DNREC have reviewed the engineered cover system design. Hercules will proceed with the implementation of corrective measures at SWMU 8/9C once the cover system is approved.

Hercules completed a RCRA Facility Investigation at the other SMWUs and AOCs. It is anticipated that some remediation will be needed at some other areas. In July 2001, Hercules submitted a final RFI report incorporating all conclusions reached during the RFI data review process. In June 2002, Hercules submitted a plan to conduct a Phase II RFI Investigation to gather additional information. The Phase II Workplan was approved November 26, 2003, and field work began thereafter. The Phase II data will be used by EPA and DNREC to determine any risks to human health and remedial action at the other SWMUs and AOCs. Preliminary results should be available in 2005.

The Environmental Indicator Forms, available on EPA's website (see Contacts) discusses that current human exposure to site contaminants is under control, and that further data is needed to determine whether migration of contaminated ground water is under control.

## Site Description

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The Hercules Research Center is located about five miles west of Wilmington, Delaware. The facility occupies approximately 45 acres, the majority of which is used for development and research chemistry studies for Hercules' worldwide chemical operations. The Research Center consists primarily of research and product development laboratories. The facility is surrounded to the north, west and south by a Country Club. To the east is the Red Clay Creek and a small railroad operated by the Wilmington and Western Railroad.

## Site Responsibility

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RCRA Corrective Action activities at this facility are being conducted under the direction of the Delaware Department of Natural Resources and Environmental Control (DNREC), with assistance from EPA Region 3.

## Contaminants

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The main contaminants in the soil, groundwater, sediments and surface water are PCBs, pesticides, chlorinated solvents and metals.

## Community Interaction

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EPA released public notices for public information about the remediation activities performed at Hercules. There has been minor public interest regarding the site.

## Institutional Controls

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No institutional controls are currently in place.

## Government Contacts

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For more information about EPA's corrective action web page, including Environmental Indicators, please visit our site at: [www.epa.gov/reg3wcmd/correctiveaction.htm](http://www.epa.gov/reg3wcmd/correctiveaction.htm)

## **Facility Contact**

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